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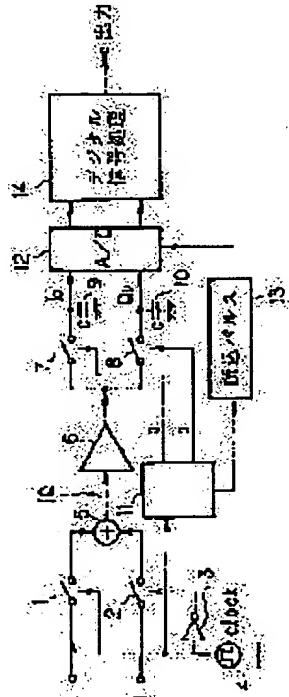
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## (54) TIME DIVISION DIRECT RECEIVER

(57) Abstract:

**PURPOSE:** To reduce the distortion at demodulation by selecting alternately any of two signals subject to orthogonal transformation and whose phases differ by  $90^\circ$ , adding, synthesizing them and amplifying the result, separating the result into two signals being early and late signals timewise and replacing alternately the relation of the preceding and succeeding signals.

**CONSTITUTION:** Two signals I, Q subjected to orthogonal transformation and whose phases differ by  $90^\circ$  are switched alternately by 1st switches 1,2, and they are added and synthesized (IQ). The synthesized signal IQ is amplified at an amplifier 6 to prevent a difference from the amplification factor and the phase of the two signals. The synthesis signal IQ amplified by the amplifier 6 is subjected to orthogonal transformation through 2nd switches 7, 8 and extracted separately as signal pairs I0, Q0, stored respectively to capacitors 9, 10 and read by an A/D converter 12. The switches 7, 8 are switched so that the relation of timewise precedence/succession of the separated signals (a), (b) is alternately replaced by a return signal generating section 11. As a result, the separation signals (a), (b) whose relation of timewise precedence/succession is alternately replaced are demodulated at a digital signal processing section 14. Thus, the distortion of the signals is less than that of the signals relation of timewise precedence/succession is fixed.



## LEGAL STATUS

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